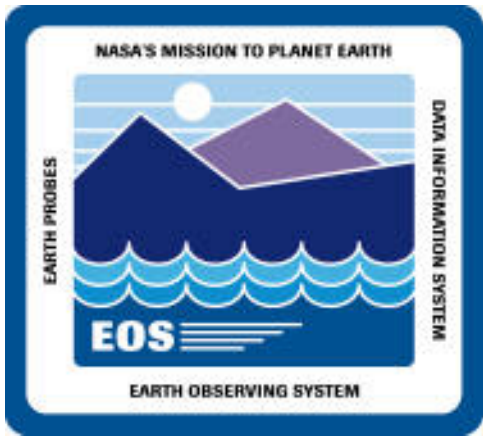

PDPS Predictive Staging

Ramsey Billups

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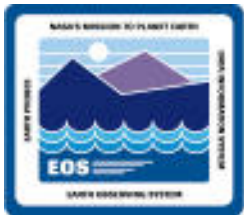
30 October 1995

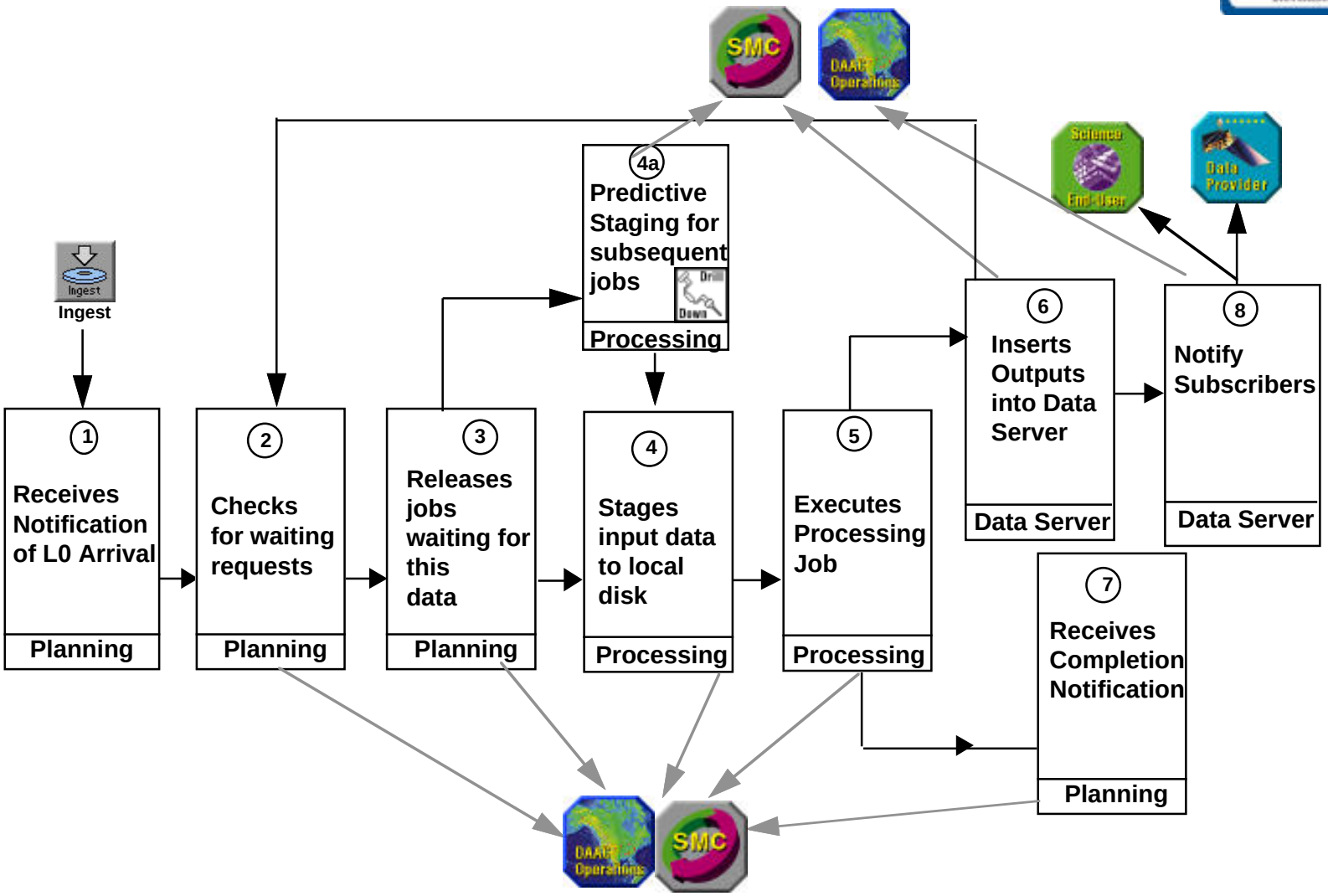
Overview – Predictive Staging



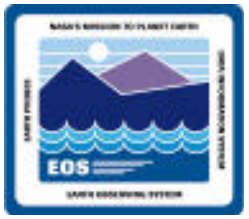
- **PDPS Data Staging**
  - **Process of retrieving PGE input data files from the Data Server to a local PDPS disk**
- **PDPS Predictive Data Staging (Rel B)**
  - **Employ “look ahead” analysis for staging data**
  - **Ensure data staged at the “right time” - Prior to PGE execution**
- **Scenario Context**
  - **EDOS L0 Ingest & L1 Standard Production**

Standard Production

Functional Flow



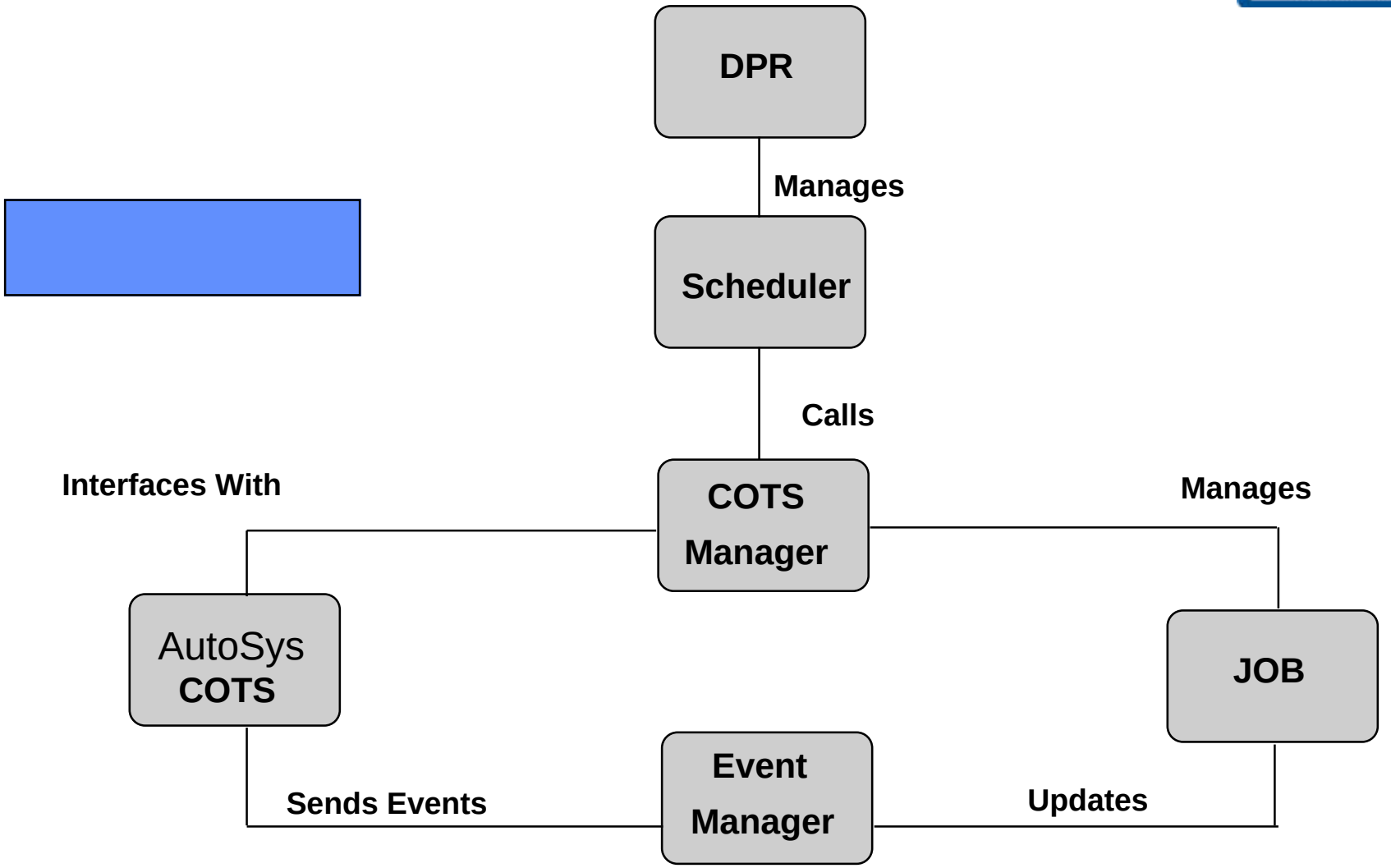
Design Drivers



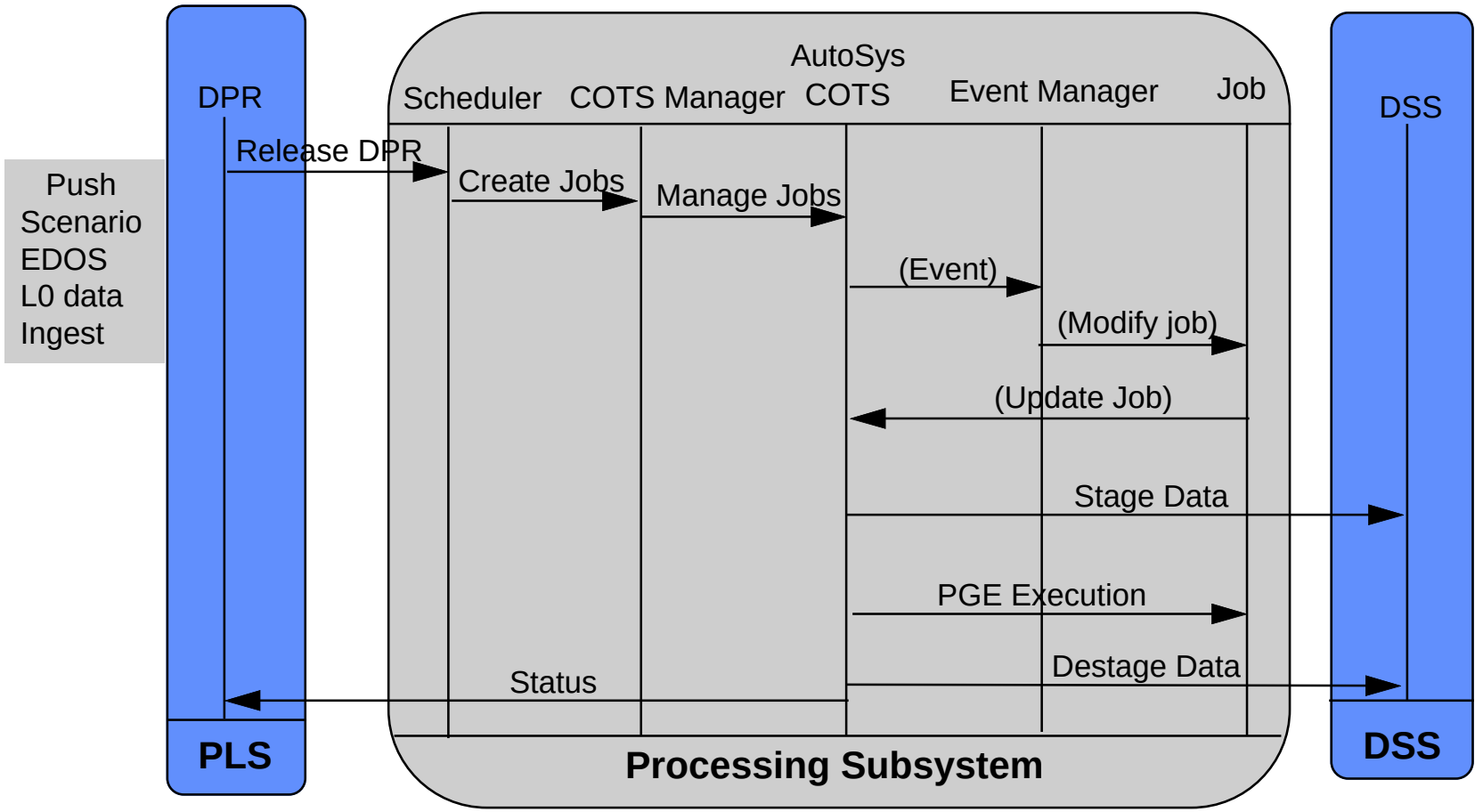
- **Efficient science data processing resource utilization**
  - **Minimize disk usage caused by staging data too early**
  - **Minimize time CPU waiting on data**

- **Potential For Multiple Jobs running on a single CPU in Rel B**
  - **Rel A PGEs Primarily CPU Bound**
  - **Mixture of IO & CPU bound Jobs in Rel B**

Software Design

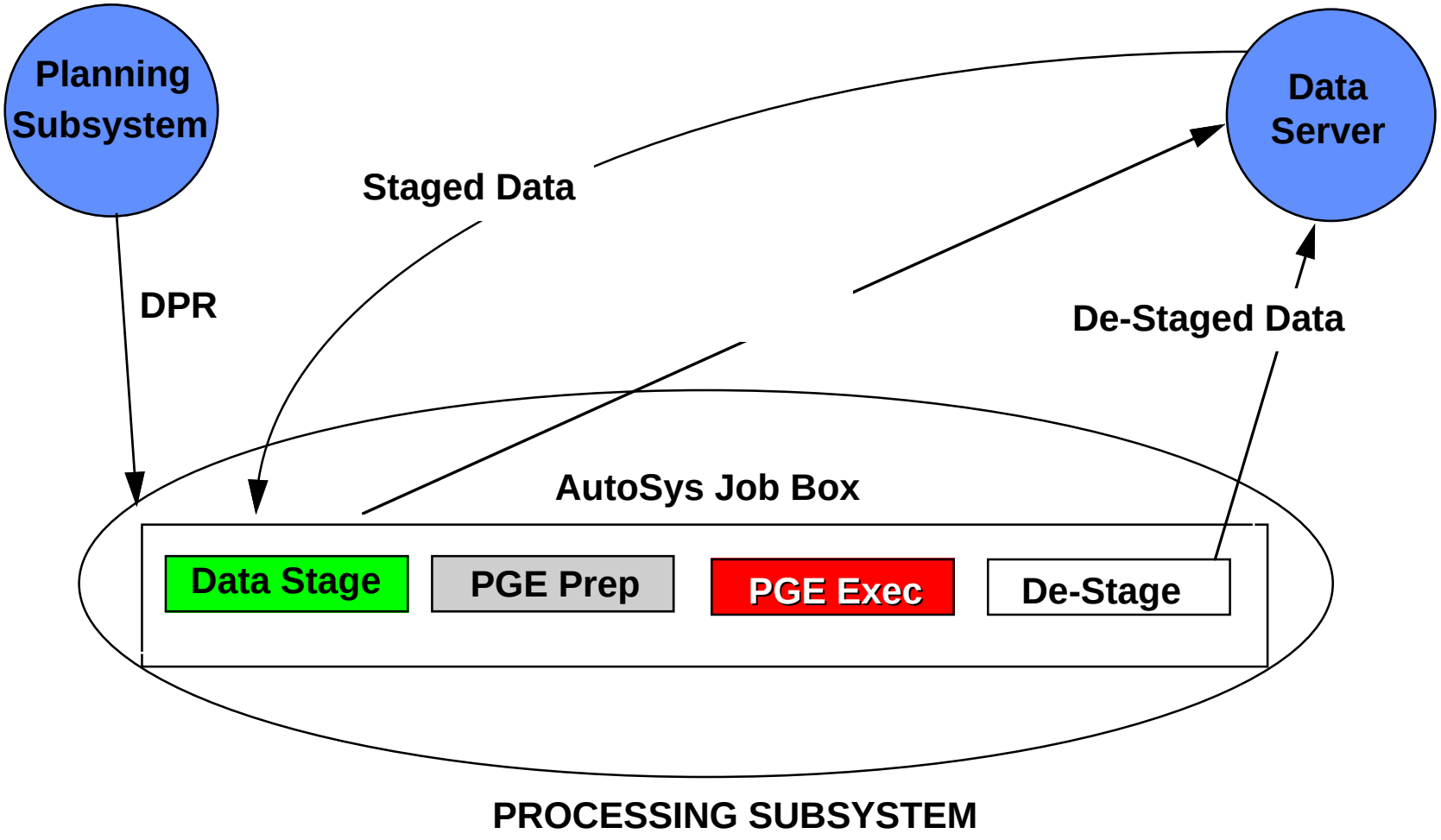


Software Design - Event Trace

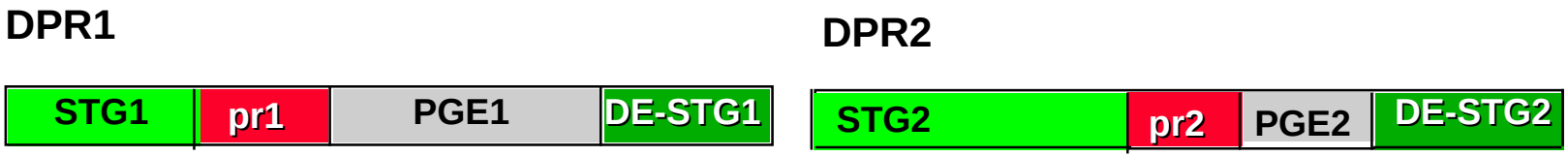


For detail : see DID 305 Vol 27

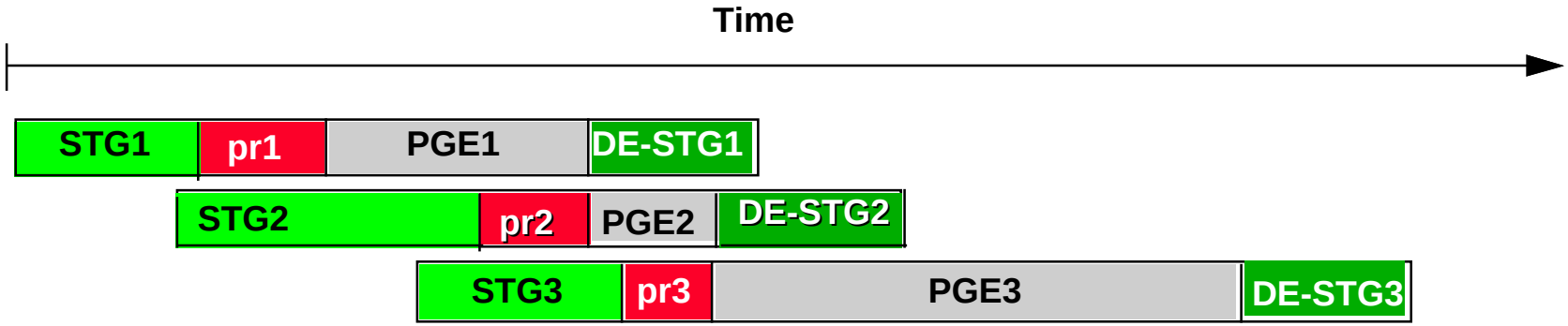
Rel A PDPS Job Box Design



Rel B Pred Staging - Example

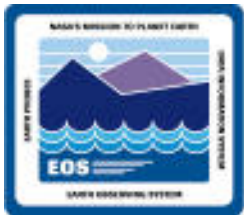


Non-Predictive Staging



Predictive Staging

Status & Summary



- Next Step
  - Analysis to quantify effectiveness & benefit of predictive staging
  - Combine Predictive Staging with deep level archive retrieval from Data Server

- Summary - Predictive Staging
  - Employ “look ahead” analysis for staging data
  - Ensure data staged at the “right time” - Prior to PGE execution
  - Improve PGE Execution Throughput With Predictive Staging